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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/508,937

04/13/2005

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Q83622

5196

23373 7590 10/21/2008
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EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/508,937	Applicant(s) UTSUNOMIYA ET AL.	
	Examiner Elena Tsoy Lightfoot	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/27/04, 10/07/08</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-20, in the reply filed on August 14, 2008 is acknowledged. The traversal is on the ground(s) that the gasket of claim 21 is produced according to the process of claims 1-20, and thus these claims (i.e., claims 1-21) can be examined together, i.e., simultaneously, without a significant burden on the Examiner. This is not found persuasive because, according to MPEP 806, restriction is proper if there would be a serious search burden on the Examiner if restriction were not required.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities: page 12, lines 2-5, "When the ratio (h/w) is 0.8 or **more**, the effects of the present invention can be sufficiently achieved. On the other hand, when the ratio (h/w) is 3.0 or **lower**, the obtained gasket tends to become uncollapsible when compressed and, therefore, is free from sealing problems" seems to be incorrect because it describes claimed range.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Curing the extruded gasket material on the cover before joining with a hard disk is critical or essential to the practice of the invention, but not included in the claim(s) is

Art Unit: 1792

not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The Applicants' specification discloses that gasket material is cured on the cover member almost immediately after extruding (See Published Application, P10).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites a phrase "a process for producing a gasket for hard disc equipment which is integrated with a cover", which renders the claim indefinite because it is not clear whether a gasket is integrated with the cover member or the cover member is integrated with the hard disc drive through the gasket. For examining purposes the phrase was interpreted as "a process for producing a gasket which is integrated with a cover for hard disc electronic equipment".

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting

Art Unit: 1792

ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1 and 9-19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-11 of U.S. Patent No. 7,044,475. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are directed to the same subject matter.

9. Claims 2-6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-11 of U.S. Patent No. 7,044,475 in view of Kawabuchi et al (US 5,945,463).

Patent '475 fails to teach that a gasket material is re-applied over the applied and cured gasket material thereby forming a two-stage gasket. However, it is a well-known principle to reapply a coating composition to achieve a desired thickness of a final coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have reapplied a gasket material in Patent '475, according to well-known principle, with the expectation of providing the desired thickness of a final coating.

It is the Examiner's position that the second layer of the gasket material is applied to the cured first layer in order to preserve the height and the shape of the applied gasket.

Moreover, Kawabuchi et al teaches that UV curable epoxyacrylate primer (claimed (n-1)-stage gasket) may be applied to a substrate with h/w ratio of 0.05-1 mm/0.3-3 mm and UV cured before applying a gasket material (claimed n-stage gasket) to enhance adhesion of the gasket material to the substrate (See column 10, lines 47-67). Therefore, it would have been obvious to

Art Unit: 1792

one of ordinary skill in the art at the time the invention was made to have applied UV curable epoxyacrylate primer and cured before applying a gasket material to a substrate in Patent '475 with the expectation of providing the desired enhanced adhesion of the gasket material to the substrate, as taught by Kawabuchi et al.

10. Claims 7-8 and 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 8-11 of U.S. Patent No. 7,044,475 in view of Wakamatsu (JP 2001182836 A).

Patent '475 fails to teach that the dispensing part is rotated.

Wakamatsu teaches that rotating a dispenser provides uniform cross sectional form of an extruded gasket material (See P21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have rotated the dispenser in Patent '475 with the expectation of providing the desired uniform cross sectional form of an extruded gasket material, as taught by Wakamatsu.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1792

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 9, 11-18 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Watanabe et al (JP 2001225392 A).

Watanabe et al discloses a process for producing a gasket for hard disc drive used in electronic equipment which is integrated with a cover by extruding a gasket material from an extrusion orifice of a three-dimensional automatic coating controlling apparatus onto the cover and UV curing the extruded gasket material (See P30), wherein a ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is in the range of ~ 1 (See Fig. 6) in a 80% or more portion of the gasket (See Abstract).

It is the Examiner's position that the ratio of ~ 1 is achieved in at least 80% or more portion of the gasket because it is formed by the automatic coating controlling apparatus using the same gasket material.

As to claim 9, the gasket material is extruded under air pressure (claimed pneumatic-type extruder) (See P18).

As to claims 16-17, Watanabe et al teaches that a gasket material contains mainly acrylic-modified urethanes such as *urethane acrylate* oligomers (See column 2, lines 27-29).

14. Claims 1-6 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabuchi et al (US 5,945,463).

Kawabuchi et al discloses a method of making a gasket with integrated cover for hard disk equipment (See column 8, lines 44-50) by extruding a gasket material from an extrusion orifice of a three-dimensional automatic coating controlling apparatus onto the cover and curing

Art Unit: 1792

the gasket material while extruding using UV apparatus that is moved together with a dispenser (See Figs. 1 and 2; column 9, lines 23-40). The gasket is generally formed to a shape an approximate half circle having a width of the part in contact with the substrate of 1 to 3 mm and a height from the surface of the substrate of about 0.5 to 1.5 mm (See column 9, lines 59-62), i.e. with h/w ratio within a range of 0.5-1.5 to 0.167-0.5.

Note that h/w ratio of Kawabuchi et al overlap claimed range of 0.8-3.0. It is held that overlapping ranges are *prima facie* evidence of obviousness. *In re Malagari*, 184 USPQ 549 (CCPA 1974). Therefore, it would have been obvious to one having ordinary skill in the art to have selected the portion of Kawabuchi et al's range that corresponds to the claimed range.

It is the Examiner's position that the h/w ratio is achieved in at least 80% or more portion of the gasket because it is formed by the automatic coating controlling apparatus using the same gasket material.

As to claims 2-6, Kawabuchi et al teaches that UV curable epoxyacrylate primer (claimed (n-1)-stage gasket) may be applied to a substrate with h/w ratio of 0.05-1 mm/0.3-3 mm and UV cured before applying a gasket material (claimed n-stage gasket) to enhance adhesion of the gasket material to the substrate (See column 10, lines 47-67). Since width of the primer (w_{n-1}) and width of the gasket w_n overlap claimed $w_{n-1} \geq w_n$; or $w_{n-1}/w_n > 1.1$, and the h/w ratio overlap claimed range of 0.8-3.0, it would have been obvious to one having ordinary skill in the art to have selected the portion of Kawabuchi et al's range that corresponds to the claimed range.

As to claim 15, the gasket material has a hardness of e.g. 30-44 (See Table 1).

As to claims 16-17, Kawabuchi et al teaches that a gasket material contains mainly acrylic-modified urethanes such as urethane acrylate oligomers (See column 2, lines 27-29).

Art Unit: 1792

15. Claims 1-8, 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamatsu (JP 2001182836 A).

Wakamatsu discloses a process for producing a gasket for any articles by extruding a gasket material from an extrusion orifice of a three-dimensional automatic coating controlling apparatus onto a cover (See Fig. 4) and then curing the extruded gasket material (See P26), wherein a ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is in the range of ≥ 1 (See Claims 1 and 4; P38), e.g. 1.08 (See P27), e.g. 1.5 (See P16).

The gasket material is applied *uniformly* (See P22), i.e. the same h/w ratio is achieved in at least 80% or more portion of the gasket.

Wakamatsu teaches that the gasket material includes UV-curable resin (See P33). It is the Examiner's position that step of curing of the UV-curable resin is implied.

As to claims 2 and 4-6, a two-stage gasket may be applied by extruding the gasket material onto the applied gasket material (See Fig. 18B).

As to claims 7, 8 and 20, Wakamatsu discloses that rotating a dispenser provides uniform cross sectional form of the extruded gasket material (See P21-22).

As to claims 16-17, teaches that a gasket material includes UV curable polyurethanes, silicone rubber (See P33).

16. Claims 2-6 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al.

Watanabe et al teaches that gasket material is thixotropic that maintains high viscosity in a static state but low viscosity low viscosity upon extrusion (See P23) that has viscosity of 10,000-80,000 mPa-s at 20 rpm and 200,000-500,000 mPa-s at 2 rpm (See P23).

It is the Examiner's position that viscosity and shear rate of Watanabe et al overlap claimed ranges. It is held that overlapping ranges are *prima facie* evidence of obviousness. *In re Malagari*, 184 USPQ 549 (CCPA 1974). Therefore, it would have been obvious to one having ordinary skill in the art to have selected the portion of Watanabe et al's range that corresponds to the claimed range. If this position could be argued, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant viscosity and shear rate parameters (including those of claimed invention) in Watanabe et al through routine experimentation depending on particular coating composition in the absence of a showing of criticality.

As to claims 2-6, Watanabe et al fails to teach that a gasket material is re-applied over the applied and cured gasket material thereby forming a two-stage gasket. However, it is a well-known principle to reapply a coating composition to achieve a desired thickness of a final coating. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have reapplied a gasket material in Watanabe et al, according to well-known principle, with the expectation of providing the desired thickness of a final coating.

It is the Examiner's position that the second layer of the gasket material is applied to the cured first layer in order to preserve the height and the shape of the applied gasket.

Art Unit: 1792

As to claims 10-15, it is the Examiner's position that the gasket material of Watanabe et al would have claimed properties recited in claims 10-15 *inherently* because it is of claimed resin that has or would have viscosity and shear rate within claimed ranges.

17. Claims 7-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabuchi et al or Watanabe et al, as applied above, further in view of Wakamatsu.

Kawabuchi et al/Watanabe et al fail to teach that the dispensing part is rotated (Claims 7-8, 20); and the extrusion orifice has a cross-sectional shape selected from ellipse, semi-ellipse formed by cutting a part of ellipse along a line parallel with the minor axis, rhombus, quadrangle and triangle, and is rotated according to the moving direction of the extrusion orifice such that a minor axis of ellipse, a straight line of semi-ellipse, a short diagonal line of rhombus, a short side of quadrangle or a base of triangle is always kept substantially perpendicular to the moving direction (Claim 8).

Wakamatsu teaches that uniform cross-sectional shape of the extruded gasket material is provided (See P21-22) by using a rotating dispenser having an extrusion orifice of a cross-sectional shape selected from *ellipse, semi-ellipse, rhombus quadrangle and triangle* (See P15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a rotating dispenser in Kawabuchi et al/Watanabe et al having an extrusion orifice of a cross-sectional shape selected from ellipse, semi-ellipse, rhombus quadrangle and triangle with the expectation of providing the desired uniform cross sectional form of an extruded gasket material, as taught by Wakamatsu.

18. Claims 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabuchi et al or Wakamatsu, as applied above, further in view of Watanabe et al.

Art Unit: 1792

Kawabuchi et al/Wakamatsu fail to teach that that: (i) the gasket material is thixotropic composition; (ii) the gasket material is extruded under air pressure (claimed pneumatic-type extruder).

As to (i), Watanabe et al teaches that a thixotropic UV-curable composition that maintains high viscosity in a static state, e.g. 200,000-500,000 mPa-s at 2 rpm (See P23) but low viscosity, e.g. 10,000-80,000 mPa-s at 20 rpm, can be used as a gasket material (See P23) that easily dispensable but maintains shape after extrusion (See P23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a thixotropic UV-curable composition as a gasket material and rotating dispenser in Kawabuchi et al/Wakamatsu with the expectation of providing the desired easy extrusion due to low viscosity and desired shape of the extruded gasket due to high viscosity in a static state, as taught by Watanabe et al.

As to (ii), Watanabe et al teaches that the gasket material is extruded under air pressure (claimed pneumatic-type extruder) (See P18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a pneumatic-type extruder in Kawabuchi et al/Wakamatsu since Watanabe et al teaches that pneumatic-type extruder is suitable for extruding a gasket material.

19. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al or Wakamatsu, as applied above, further in view of Kawabuchi et al.

Watanabe et al/Wakamatsu fail to teach that an irradiation device is moved in association with the extrusion orifice of the three-dimensional automatic coating controlling apparatus.

Art Unit: 1792

Kawabuchi et al teaches that a gasket material extruded from an extrusion orifice onto the cover may be cured while extruding using UV apparatus that is moved together with a dispenser to maintain an extruded shape (See Figs. 1 and 2; column 9, lines 23-40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used UV apparatus that is moved together with a dispenser for curing a gasket material in Watanabe et al/Wakamatsu with the expectation of providing the desired maintaining extruded shape, as taught by Kawabuchi et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.
Primary Examiner
Art Unit 1792

October 21, 2008

/Elena Tsoy Lightfoot/